

IN THE CLAIMS:

1-18. (Canceled)

19. (Previously presented) A gated field emission device, comprising:
a substantially vertically aligned carbon nanostructure coupled to a substrate;
a dielectric coupled to the substrate and surrounding at least a portion of the
substantially vertically aligned carbon nanostructure;
a gate coupled to the dielectric, the gate including an aperture substantially aligned with
the substantially vertically aligned carbon nanostructure;
another dielectric coupled to the gate, the another dielectric including a conduit
substantially aligned with the substantially vertically aligned carbon nanostructure; and
a focusing electrode coupled to the another dielectric, the focusing electrode including
another aperture substantially aligned with the substantially vertically aligned carbon
nanostructure,
wherein the dielectric, the gate, the another dielectric and the another aperture define a
well that circumscribes the substantially vertically aligned carbon nanostructure.
20. (Previously presented) An integrated circuit, comprising:
a substantially vertically aligned carbon nanostructure coupled to a substrate;
a dielectric coupled to the substrate and surrounding at least a portion of the
substantially vertically aligned carbon nanostructure;
a gate coupled to the dielectric, the gate including an aperture substantially aligned with
the substantially vertically aligned carbon nanostructure;
another dielectric coupled to the gate, the another dielectric including a conduit
substantially aligned with the substantially vertically aligned carbon nanostructure; and
a focusing electrode coupled to the another dielectric, the focusing electrode including
another aperture substantially aligned with the substantially vertically aligned carbon
nanostructure,
wherein the dielectric, the gate, the another dielectric and the another aperture define a
well that circumscribes the substantially vertically aligned carbon nanostructure.

21. (Original) A circuit board, comprising the integrated circuit of claim 20.
22. (Previously presented) The integrated circuit of claim 20, wherein the substantially vertically aligned carbon nanostructure includes a vertically aligned carbon nanofiber.
23. (Previously presented) The integrated circuit of claim 20, wherein the focusing electrode composes an electrostatic focusing lens.
24. (Previously presented) The integrated circuit of claim 20, wherein the dielectric surrounds a single substantially vertically aligned carbon nanostructure.
25. (Previously presented) The integrated circuit of claim 20, wherein the focusing electrode includes another aperture that is substantially aligned with the aperture of the gate.
26. (Previously presented) The gated field emission device of claim 19, wherein the substantially vertically aligned carbon nanostructure includes a vertically aligned carbon nanofiber.
27. (Previously presented) The gated field emission device of claim 19, wherein the focusing electrode composes an electrostatic focusing lens.
28. (Previously presented) The gated field emission device of claim 19, wherein the dielectric surrounds a single substantially vertically aligned carbon nanostructure.
29. (Previously presented) The gated field emission device of claim 19, wherein the focusing electrode includes another aperture that is substantially aligned with the aperture of the gate.
30. (New) An apparatus, comprising:
 - a substantially vertically aligned carbon nanostructure coupled to a substrate;
 - a dielectric coupled to the substrate and surrounding at least a portion of the substantially vertically aligned carbon nanostructure;
 - a gate coupled to the dielectric, the gate including a aperture substantially aligned with the substantially vertically aligned carbon nanostructure;

another dielectric coupled to the gate, the another dielectric including a conduit substantially aligned with the substantially vertically aligned carbon nanostructure; and

a focusing electrode coupled to the another dielectric, the focusing electrode including another aperture substantially aligned with the substantially vertically aligned carbon nanostructure,

wherein the dielectric, the gate, the another dielectric and the another aperture define a well that circumscribes the substantially vertically aligned carbon nanostructure.

31. (New) The apparatus of claim 30, wherein the substantially vertically aligned carbon nanostructure includes a vertically aligned carbon nanofiber.

32. (New) The apparatus of claim 30, wherein the focusing electrode composes an electrostatic focusing lens.

33. (New) The apparatus of claim 30, wherein the dielectric surrounds a single substantially vertically aligned carbon nanostructure.

34. (New) The apparatus of claim 30, wherein the aperture is formed by chemical mechanical polishing.

35. (New) The apparatus of claim 30, wherein at least a portion of the well is formed by reactive ion etching.

36. (New) The apparatus of claim 30, wherein the focusing electrode includes another aperture that is substantially aligned with the aperture of the gate.